

Written Testimony of
Samuel Ginn
Chairman
First Responder Network Authority Board

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Subcommittee on Communications and Technology
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“Oversight of FirstNet and Emergency Communications”

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I. Introduction

Chairman Walden, Ranking Member Eshoo, and Members of the Subcommittee, thank you for inviting me to testify on behalf of the First Responder Network Authority (FirstNet). I am pleased to discuss FirstNet's progress, working with states, tribes, local governments and public safety, to deploy a modern, nationwide, interoperable public safety wireless network.

It is truly an honor to be sitting before you here today. I have spent my entire career building wireless networks and creating and running the companies that design, operate and maintain those networks. To be appointed Chairman of FirstNet, and especially to be able to serve with such a deeply and diversely qualified Board, gives me an opportunity to give back some of that experience toward a mission of enormous importance to our country and America's first responders: to deliver cutting-edge communications technologies to protect them and our citizens, both in their day-to-day operations and during times of disaster. You have my commitment, as Chairman of this Board, that we will do everything we can to get this done quickly and to get it done right.

What Congress did in the Middle Class Tax Relief Act was insightful. You recognized the serious consequences for first responders that flowed for decades from a fragmented communications architecture: high costs due to a lack of economies of scale, a lack of crucially needed interoperability, and technology that lags woefully behind that which many teenagers have on their smartphone. You saw the problem and you created FirstNet, finally establishing a solid foundation upon which to correct all of these problems and to set the stage for major, life-saving advances in public safety communications. You have put important assets at our disposal, including the use of 20 megahertz of prime spectrum on a nationwide basis, substantial initial Federal financial support, and a single, strong network governance structure that is paired with considerable collaborative opportunities and flexibility at the state and territorial level. The FirstNet Board agrees with your vision, and excited to have the opportunity to put our collective talents toward deploying this network.

In addition to the resources made available by the Act, FirstNet stands to gain considerable momentum from the years of intensive collaboration that public safety and industry have expended on public safety user requirements, interoperability principles, and technical standards. Such efforts are exemplified by the recommended minimum technical requirements developed by the Federal Communications Commission's Technical Advisory Board for First Responder Interoperability; the National Public Safety Telecommunications Council's (NPSTC) Statement of Requirements; NPSTC's Public Safety Broadband High-Level Launch Requirements - Statement of Requirements for FirstNet Consideration; the Emergency Communications Preparedness Center's (ECPC) Federal Broadband Mission Needs Assessment; and, the responses to NTIA's Notice of Inquiry on FirstNet's conceptual network architecture presentation. We are indebted to the hundreds of public safety professionals, state and local officials, and other stakeholders who have given their time and energy to develop these invaluable documents that will help to guide and accelerate FirstNet's work.

II. Designing and Deploying a Nationwide Broadband Network For America's First Responders

As Congress and the public safety community are well aware, the FirstNet model represents a significant step forward from the traditional model for public safety communications. Instead of having thousands of individual, dedicated, stand-alone public safety systems, built individually for law enforcement, fire and emergency medical services agencies, FirstNet will be an integrated, nationwide public safety network that brings together the assets of state, local, tribal, federal, terrestrial mobile, and satellite mobile communications into a single, complete network for first responders. This network will ensure that first responders have access to the same modern communications capabilities we all enjoy on our smartphones and mobile devices.

FirstNet's fundamental goal is to design and deploy a cutting-edge wireless broadband network that serves our Nation's first responders and the public safety community with highly-reliable, interoperable, nationwide wireless services, applications and user devices, at the lowest possible fees. A nationwide network that meets first responders' requirements for mission-critical coverage, interoperability, security and reliability. A network you can bet your life on.

We are driven by multiple, mutually reinforcing core concepts:

The network must have a single, standardized architecture that assures interoperability and seamless operation across and among jurisdictions and services, as well as interoperability with legacy public safety networks.

The nationwide network must enable local control, customization and optimization within a seamlessly interoperable framework.

It must meet the higher standards demanded by public safety – in terms of mission-critical reliability, security, resiliency, redundancy, fault tolerance and backup.

It must have standardized network services and applications, with a nationwide procurement platform for network, devices and service platforms.

It must provide ubiquitous coverage, exceeding even that of the largest commercial networks, in order to meet the needs of the first responders who serve in rural, remote and tribal areas of our country, many of which historically have not had access to the latest telecommunications technology, as well as urban and other critical areas, consistent with the recommendations of the 9/11 Commission.

It must, to the greatest extent possible, leverage existing infrastructure and benefit from the work of early deployers of 700 MHz long-term evolution (LTE) public safety systems.

It must be flexible to meet the current and evolving needs of public safety and to benefit from new technology innovations.

It must be a more secure network than its commercial counterparts; protecting data across all its network elements, resisting threats, and quickly mitigating any vulnerabilities.

It must promote an ever-developing array of applications from which local first responders can choose to customize and optimize the network to meet their needs.

Finally, the network, its devices and services *must* be affordable to all of its users. To this end, I am confident of one thing: FirstNet will offer public safety users across this country a network that provides the high level of security, resiliency and reliability they need, as well as cutting edge applications and services, and we will do so in a way that is more affordable than any other alternative that could be provided.

The magnitude and complexity of our task is truly historic. Deploying a public safety grade wireless broadband network with the scale of U.S. nationwide geographic coverage is an international first. The FirstNet network will be distinctive from all other networks in two critical ways. First, it will be the only network that is ever built entirely to public safety-level specifications for security and reliability. Second, it will be the only network to

cover an entire nation of our size geographically, as opposed to coverage by population centers. Combine these two features and you begin to see just how groundbreaking – and challenging – our task is.

The FirstNet network will need to cover all 56 states and territories, and serve more than 60,000 state, tribal, local and federal public safety entities. By our current estimates, to meet its coverage requirements, the network will require tens of thousands of cell sites and a large core network; the securing of satellite coverage for the hardest-to-serve areas; and negotiations with wireless carriers, rural telecommunications providers, utilities, networking and software engineers, and equipment vendors. And we do intend to partner with a wide range of carriers, vendors and other parties that have something valuable to offer.

Limited time and money, of course, compound our challenges. More than a decade after the tragedy of September 11, 2001 – and disasters such as Hurricanes Katrina and Sandy since then – we cannot afford a pace that is anything less than urgent. While our enabling legislation provided significant funding based on future spectrum auction proceeds, the sheer size, scope and complexity of the network require that FirstNet be as efficient as possible in everything we do, especially as we find innovative ways to leverage and optimize existing public and private assets. And of course, at the user end, FirstNet service will have to be affordable for first responder agencies, whose budgets already are under pressure, along with the finances of states, tribes, counties and cities across the country.

III. FirstNet is Making Important Progress

Less than seven months since the Board was fully constituted, I am pleased to report that we are making substantial progress toward our ultimate goal. Most importantly, we are benefitting from an experienced, skilled and motivated board of directors, made up of leaders from first responder agencies, former state and local officials, the mobile telecommunications industry and key federal government agencies. Taken together, the Board members bring more than twelve decades of experience designing, constructing, and maintaining wireless networks, both in the United States and internationally; more than thirteen decades of experience in public safety; and a perspective honed by nearly four decades of service in federal, state and local government.

I can attest that every member of the Board is fully committed to bringing the benefits of wireless broadband data services to our first responders across the Nation.

Last month, FirstNet transmitted its first Annual Report to Congress for Fiscal Year 2012, as directed by the Middle Class Tax Relief and Job Creation Act of 2012 (Act). That report, which is appended to this testimony, addresses an array of activities conducted by, or on behalf of, FirstNet for the period beginning with the Act's passage on February 22, 2012, through the end of Fiscal Year 2012, including the work of the Federal Communications Commission's Technical Advisory Board for First Responder Interoperability, the National Telecommunications and Information Administration's (NTIA) actions to implement the State and Local Implementation Grant Program (SLIGP), the recruitment and appointment of the Commerce-appointed FirstNet Board members, and the outcomes of the Board's inaugural meeting in September 2012.

FirstNet is now focused on a number of key preliminary activities and objectives that we hope to complete in the coming months. These include:

- Building a world-class organization and management team capable of launching the nationwide wireless start-up dedicated to first responders;
- Executing an aggressive consultation and outreach strategy with all of FirstNet's key stakeholders, including states, tribes, local governments, and public safety agencies;
- Conducting extensive market research of terrestrial and satellite wireless carriers to identify optimal financial and operational deployment alternatives for the nationwide public safety network;
- Conducting business and financial modeling of the various network deployment scenarios, as key stakeholders and potential partners provide input to FirstNet, in order to produce a FirstNet business and financial plan;
- Evaluating network engineering technologies and potential network designs to determine if they can realistically be implemented and meet public safety standards;

- Working with standards-setting bodies to ensure public safety critical communications elements are included in standards;^[1]
- Performing network coverage planning and engineering activities, including nationwide architecture planning for the core and transport architecture and moving towards procurement of required infrastructure; and
- Establishing standard operating procedures in consultation with the public safety entity network operators to ensure local control and incident response.

To allow FirstNet to get a quick start on this preliminary work, we have brought on a small team of accomplished experts on a temporary basis to provide immediate assistance with key areas such as coordinating outreach and possible network configurations. In the near-term, FirstNet will initiate an expanded talent search for our regular, full-time team of experts and staff.

It is important to emphasize that while FirstNet is gathering information and asking questions on possible network configurations, we will consult, as is required by the Act, before we make any final decisions on the architecture for the network deployment plan. We will keep the Committee informed of our progress on this preliminary work.

IV. Consultation and Outreach

While we are engaged in the preliminary activities discussed above, and working to identify and evaluate cornerstone components of the FirstNet network, we are undertaking simultaneously, and, in parallel, an aggressive and comprehensive stakeholder outreach campaign. These consultations are rightly mandated under the Act, as they are critical to ensuring that the nationwide network is tuned and optimized to meet the specific requirements of its users, and that FirstNet has a full understanding of the existing infrastructure that can be brought to bear for the network.

The Board has tasked its member Chief Jeffrey Johnson, Past President of the Western Fire Chiefs Association, who serves as FirstNet's acting User Advocacy Officer, to develop a broad-ranging, comprehensive consultation and outreach strategy. This strategy is comprehensive. First, it encompasses the formal consultation process between FirstNet and state, regional, tribal, and local jurisdictions, which will identify, plan and implement the most efficient and effective way to utilize and integrate the infrastructure, equipment, and other architecture associated with the network. Federal agencies also will play a role in the successful deployment of the public safety broadband network, and the Board is excited about working with federal agencies to determine where and how federal assets and expertise can be leveraged for the benefit of the nationwide network and public safety first responders.

Our outreach must also extend across the full scope of both formal and informal interactions with our many stakeholders that we must engage to be successful. Certainly the Act's formal consultation process, which will culminate in every state's decision regarding its full participation in FirstNet's network deployment plan, must have the highest priority on our agenda. We also know, however, that long after the states have made their decisions regarding our network deployment plan, first responders in public safety agencies at every level of government will make their own daily judgments on the value and effectiveness of FirstNet's services and applications. This demands that we develop and maintain an ongoing dialogue with all stakeholders. The early phases of our consultation strategy include hosting a series of "listening tour" meetings, which will enable us to engage directly with the Governors of the states and territories, federal and state-level officials, and public safety stakeholders.

FirstNet's outreach to public safety users – our customers – is critical to ensure our network meets the unique and specialized needs of first responders. Our outreach goal is to create informed consumers and partners of FirstNet services so that we can design a network that achieves "street-level" demand. We will achieve this by directly engaging with state, tribal, county, local, and federal officials; as well as public safety trade associations, trade unions and others, through an array of meetings, workshops, conferences, media and print publications.

With respect to states and territories, our first priority is to develop lasting relationships with Governors, the states' designated single officer or governmental body to coordinate implementation of the SLIGP grant funds, Statewide Interoperability Coordinators, state Chief Information Officers, and other state and territorial officials to fully understand their needs, their cost constraints, and what existing expertise, lessons learned and infrastructure they can offer to ensure the nationwide network meets those needs. We seek to build relationships built on mutual trust, understanding and open information exchange, while preparing for their full participation in the network.

FirstNet recently announced the final membership and structure of our Public Safety Advisory Committee, which is comprised of state, tribal and local organizations, and I'm pleased that its first face-to-face meeting is expected to take place in April. FirstNet will utilize this Advisory Committee not only as a key source of expertise and information, but also as a functional means of outreach to the representatives' sponsoring organizations and the broader public safety community. We will provide periodic updates to the Public Safety Advisory Committee Executive Committee, utilize the Advisory Committee's leadership as presenters at conferences and as advocates conducting direct outreach and, of course, solicit their feedback.

FirstNet is also committed to engaging with tribal jurisdictions to ensure their unique needs are met as we design and deploy the nationwide network. Our strategy includes immediate and ongoing meetings with tribal representatives at regional "listening tour" meetings and other events to understand tribes' priorities and concerns, as well as working closely with both the Department of Justice, which has substantial presence through tribal public safety groups, and NTIA through its State and Local Implementation Grant Program.

The FirstNet Board has been hard at work trying to resolve issues associated with the seven partially suspended Broadband Technology Opportunity Program (BTOP) public safety projects, and has made significant progress to date. Led by member Sue Swenson, Board members conducted site visits before the end of last year with every one of the BTOP grantees to educate themselves on the specific project goals, their status and what they might offer FirstNet, both in terms of lessons learned and their incorporation into the nationwide network. Based on our site visits and other discussions with the projects' leaders and vendors, we've determined that these projects could provide benefits to FirstNet's nationwide deployment efforts and generate valuable lessons learned on the challenges we face. We are now engaged in a 90-day period to negotiate the terms and conditions of spectrum lease agreements that would provide FirstNet with the requisite confidence to recommend to NTIA that it allow these projects to resume and transform potential benefits into the tangible results of meaningful, working relationships between FirstNet and the BTOP grantees, as well as safeguarding taxpayers' investments.

FirstNet is also engaging with the vendor, manufacturing and services communities in order to maximize the quality of FirstNet products, offerings and operations. We have already received substantial and valuable input from an array of vendors in response to a Notice of Inquiry last fall, and have plans to hold several topic-specific open forums during the upcoming months where vendors can come together and learn about FirstNet requirements and provide valuable information about their company's capabilities. Additionally, we plan to engage vendor trade associations through their advisory boards, trade conferences and other events. Finally, FirstNet already is and will continue to engage leaders in the technical community, including applications developers, who have contributions to make to FirstNet.

V. Flexibility Is Crucial to FirstNet's Timeliness and Cost-Effectiveness

While the FirstNet Board has unmatched experience in deploying, managing, and operating large scale mobile networks, we also operate within the structure of the NTIA and Department of Commerce and the federal laws, regulations and processes required for procurements and staffing. The magnitude and complexity of FirstNet's task requires that we negotiate with hundreds of wireless carriers, equipment manufacturers, and other vendors on all aspects of the network. The challenges of the multitude of complex and multi-tiered regulations and requirements that currently apply to our activities will add significantly to the costs and timeframes for deploying the FirstNet network, especially compared to the Board's collective experience deploying private sector wireless networks.

Let me be clear: FirstNet does not seek to modify in any way – and indeed believes it crucial to ensure – its statutory obligation to conduct procurements in a manner that is open, transparent and competitive. We want

to work with Congress, especially the members of this Subcommittee, to explore obvious and reasonable measures that could avoid added costs and ensure we can deploy the network without unnecessary expense or undue time delay. I appreciate the consideration of this Subcommittee on how FirstNet can most effectively meet this challenge and will continue to communicate with Congress regarding this matter as necessary and appropriate.

VI. Conclusion

I want to again commend the bipartisan leadership of this Subcommittee, and Congress as a whole, for its leadership and support for the Middle Class Tax Relief and Job Creation Act of 2012. As the representatives of the taxpayers who are providing FirstNet with our start-up funding, Congress has a critical interest in FirstNet's operations. We recognize the importance of Congressional oversight over our activities, as well as our obligation to keep you informed of our ongoing activities, achievements and any challenges we face. FirstNet believes that your continued involvement is necessary to the success of our mission to deploy a nationwide, interoperable public safety broadband network for our Nation's first responders and for our country.

Thank you again. I am pleased to answer any questions you may have.

[1] Notably, the current LTE standards development organization, 3GPP, announced in December 2012 that one of its top focus areas for Release 12 in 2013 will be standardization of LTE in support of Public Safety and Critical Communications. This is a result of the creation of FirstNet and the formal standards development activities that the Public Safety Communications Research program, a collaborative effort of NTIA and the National Institute of Standards and Technology (NIST), is performing on behalf of FirstNet. See <http://3gpp.org/New-Opportunities-for-3GPP-in-Rel> [3].